Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Continental Resources, Inc.
Well Name/Number: Sylvia 1-3H
Location: NE NW Section 3 T26N R56E
County: Richland **, MT; Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)
Long drilling time: No, 30 to 40 days drilling time.
Unusually deep drilling (high horsepower rig): No, triple derrick, 1000 HP to drill a single lateral Bakken Formation horizontal well, 19,924'MD /10009'TVD.
Possible H2S gas production: Possible slight H2S.
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
__ Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: Using a triple derrick drilling rig to drill a single lateral horizontal Bakken Formation well.

Water Quality

(possible concerns)
Salt/oil based mud: Yes, oil based invert mud system on the intermediate casing string hole and brine water to drill the single lateral horizontal. Freshwater and freshwater mud system will be used on the surface hole.
High water table: No high water table anticipated.
Surface drainage leads to live water: no, nearest drainage is Day Creek to the East about 1/4 of a mile and Elm Coulee about 1/16 of a mile to the North of this location.
Water well contamination: No, closest water wells are about 1/2 of a mile to the East. Depth of these water wells are from 80' to 296'. Surface hole will be drilled to 1730' with freshwater and freshwater mud system. Surface casing will be set and cemented to surface to protect ground waters.
Porous/permeable soils: No, silty sandy clay soils.
Class I stream drainage: No Class I stream drainages in the area.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: 1730' of surface casing is enough to cover the base of the Fox Hills Formation and to protect all shallow groundwater zones. No concerns.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings anticipated.
High erosion potential: No, small cut, up to 5.2' and small fill, up to 4.4', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large wellsite, 400'X450' location size required.
Damage to improvements: No surface use is CRP.
Conflict with existing land use/values Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be off of an existing well road and will build about 756' of new access road into this location. Drill cuttings will be disposed of in the lined reserve pit. Oil based invert drilling fluids will be recycled. Completion fluids will be trucked to a commercial Class II disposal. Pit will be backfilled after remaining fluids have evaporated. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences are about 1/2 of a mile to the southwest and 1/2 of a mile to the northeast from this drilling location.
Possibility of H2S: Slight chance of H2S.
Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No new access to wildlife habitat.
Conflict with game range/refuge management: No conflict with game range/refuge management.
Threatened or endangered Species Listed threatened or endangered Species in Richland County, Piping Plover, Interior Lease Tern, Whooping Crane and Pallid

Sturgeon. Candidate specie is the Greater Sage Grouse. NH tracker site lists only the Eastern Red Bat as a "Species of Concern".

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____
Comments: Surface location is cultivated. Eastern Red Bat habitat is riparian woodlands, this location is on highland grasslands. No concerns.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified.

Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: Private surface lands. No concerns.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns

Remarks or Special Concerns for this site

Well is a single lateral Bakken Formation horizontal development well,

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): \s\Thomas Richmond

(title:) Administrator
Date: November 15, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
November 15, 2013
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Richland County
(subject discussed)

September 23, 2010 for nearby well
(date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3
(subject discussed)

November 15, 2013
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____